



# REFRACTIVE ERRORS-A CONCEPTUAL VIEW

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## ABSTRACT

Refractive errors are the common problem in today's life style. When light rays pass from a medium of one density to a medium of a different density they are refracted or bent. So before reaching the retina light rays pass successively through the cornea, Aqueous humour, Lens and vitreous humour which are all more dense than the air. There are 3 types of refractive error Myopia, Hypermetropia and Astigmatism. *Timira* is one such eye disease, which starts from *Avyakta darshana* and ends in complete loss of vision i.e. *Linganasha*.

**KEY WORDS:** Refractive error, *Timira*.

## INTRODUCTIONS:

Refractive error is defined as a state of refraction, when the parallel rays of light coming from infinity are focused either in front or behind the sensitive layer of retina, in one or both the meridians with accommodation at rest. The refractive error includes Myopia, Hypermetropia and Astigmatism.

### Myopia:

Myopia is derived from the term "muopia" which, in Greek, means to close the eyes. It manifests as blurred distance vision, hence, the popular term "nearsightedness."

### Hypermetropia:

It is a refractive error in which parallel rays of light from infinity come to focus behind the retina when accommodation is at rest. This may be because the eyeball is too short (axial hypermetropia) or the refractive elements of the eye are inadequate.

### Astigmatism:

It is a type of refractive error wherein the refraction varies in the different meridians. Consequently, the rays of light entering the eye can not converge to a point focus but form focal lines. Unequal curvatures of the cornea in different meridians and decentring of the lens is the cause of astigmatism.

### Concepts Of *Timira*:

#### Etymology:

Tim'+ Unadi suffix 'Kirach' which means The increase of watery substance in the eye, Loss of light perception. In *Amarakosha*, the meaning of *Timira* is given as darkness.

#### Etiology of *timira*:

*Acharya Sushruta* and others have described the following causes for eye diseases, Diving into water immediately after exposure to heat, Excessive looking at distant objects, Sleeping during day/awakening at night, Excessive weeping, Anger/grief, Injury to head, Excessive use of sour gruel and vinegar, *Kulatha* and *Masha* pulses, Suppression of natural urges, Excessive perspiration, Smoking or working in smoke, Suppression of or excessive vomiting, Checking tears, Concentrating on minute objects, Intake of fluids and other foods at night, Alcohol, Travelling in very high speed, Change of seasons, *Abhishyanda* are the causative factor of the eye diseases.

#### Management of *Timira*:

The treatment of the *Timira* depends upon the stage and dominance of particular *Dosha*. Management can be broadly divided into:-

- *Nidana Parivarjana* is the basic treatment and very important to treat the disease. Avoidance from the etiological factors like Excessive or deficient or wrong use of senses, *Diwaswapna*, *Vegavarodha*, *Atimaithuna*, *Viruddhahara* etc.
- As *Panchkarma* is the basis of *Kayachikitsa*, similarly the *kriya kalpa* is the basis of the treatment of eye diseases. Its include *Tarpana*, *Putapaka*, *Seka*, *Aschyotana* and *Anjana*. These all together are known as "*Kriyakalpas*".

- *Triphala* is said to be the drug of choice in case of *Timira* with various *Anupanas* (vehicles) according to the involvement of *Doshas*. In *Pittaja* type mixed with plenty of Ghee regularly; similarly in *vataja* type, it should be taken with oil and in *kaphaja* one with plenty of honey properly.
- *Sushruta* and others indicate numbers of *Nasyas* in the management of *Timira*. Other *chakshushya rasayana* compounds came into *Ayurvedic* literature after 16<sup>th</sup> century viz. *Saptamrita Lauha* etc. many mineral and animal drugs e.g. *Yashada* etc. is termed as *Chakshushya*.
- *Virechana* is said to be ideal for *Anulomana* of *Doshas* specially vitiated *Pitta*, as eye is the sight of *Pitta* predominance. In *Vataja Timira* castor oil mixed with milk is applicable; *Triphala ghrita* is a general evacative particularly in diseases of *Rakta* and *Pitta*; in *kaphaja* type, *Virechan* with Ghee processed with *Trivrit* is recommended while in *Tridosha*, oil processed with the *Trivrita* is useful.

## DISCUSSION:

When the vitiated *Doshas* invade first *Patala*, the patient complains of difficulty in seeing objects distinctly. This is the common complaint of Myopia, hypermetropia, astigmatism and presbyopia. So the *Timira* of first *Patala* can be correlated to refractive errors easily.

The confused visual perception and appearance of bees, flies, hairs etc. symptoms are complained of by the patient, when the vitiated *Doshas* are situated in the second *Patala* which are present in high myopia also, where degenerative changes occur. Appearance of distant objects as near and vice versa is mainly due to accommodative failures. So considering these views, it can be concluded that *Timira* at the stage of second *Patala* involvement can be correlated to errors of refraction.

When the disorder advances to the fourth *Patalas*, vision is obstructed completely, it is known as "*Linganasha*". This type of condition occurs in mature and hyper-mature cataract and certain retinal degenerative conditions.

## CONCLUSIONS:

The disease progresses to *Kacha* and *Linganasha* when the *Doshas* involve third and fourth *Patala* respectively. The clinical picture of vitiated *Doshas* in first and second *Patalas*, which are analyzed here, simulates very much with refractive errors.

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